

II. The Value of the MMIF under Alternative Economic Scenarios

In addition to estimating the economic value of the MMIF under a baseline scenario, Deloitte & Touche also estimated the value of the Fund under several alternative economic scenarios. The results of these alternative Fund estimates are set forth in this section of the report.

In the past, it was common practice to estimate the value of the Fund under a Pessimistic and Recession scenario, where the details of these scenarios were provided by DRI. As noted in the FY 2000 Actuarial Report, these scenarios typically did not entail economic conditions that represented a truly stressed scenario for the Fund. Therefore, we included judgmental scenarios last year to address this issue.

We continue this practice in the current report, and no longer consider alternative scenarios from DRI. Rather, we considered the following scenarios:

- ***Low House Price Appreciation Scenario*** – house price appreciation is 5 percentage points lower than the DRI forecast for the 2002-2004 years, returning to baseline levels in 2005.
- ***High Interest Rate Scenario*** – commitment rates on mortgages and yields on Treasury notes are 300 basis points higher than the DRI forecast for the 2002-2004 years, returning to baseline levels in 2005.
- ***High Unemployment, Low Personal Income Scenario*** – unemployment rates are 5 percentage points higher, personal income levels are 5 percentage points lower than the DRI forecast for the 2002-2004 years, returning to baseline levels in 2005.
- ***DRI with OMB FY 2003 Budget Assumptions*** – characterized by lower interest rates and income levels relative to the baseline forecast. Details of the assumptions used for this scenario can be found in Appendix F.

Exhibits II.1-II.5 display the estimated economic value of the Fund for the period 2001 through 2008 under the baseline and alternative scenarios described above.

The low house price appreciation scenario shows lower capital ratios for the Fund in all years. This result is primarily driven by higher probabilities of negative equity, and higher loan-to-value ratios as the loan pools age.

The high interest rate scenario indicates a higher capital ratio for fiscal year 2001 as compared to the baseline scenario; however, the capital ratio is lower in all subsequent years. The higher capital ratio for the 2001 year is due to fewer prepayments (driven by higher interest rates) without the negative effect of higher claims. For years 2002 and beyond, the impact of higher interest rate levels takes hold and the capital ratio is lower due to higher claim experience.

Actuarial Review of MMI Fund as of FY 2001

As expected, the high unemployment, low personal income scenario indicates lower capital ratios for all years. This is driven by higher levels of claim activity.

The DRI/OMB scenario indicates a slightly lower capital ratio for FY 2001, based on a higher level of prepayments. The capital ratios for FY 2002 and subsequent are all higher than the baseline indications, as the impact of lower interest rates at loan origination takes effect. This scenario is essentially the converse of the high interest rate scenario described above.

Estimates of the Economic Value and Capital Ratios of the MMIF as of Fiscal Year End 2001 through 2008
Baseline Economic Scenario

Exhibit II.1
Page 1

	Fiscal Year - (\$000's)							
	2001	2002	2003	2004	2005	2006	2007	2008
Economic Value at Beginning of Fiscal Year	15,914,516	18,509,777	22,535,394	26,021,417	29,346,980	32,935,518	36,640,363	40,651,593
+ Present Value of Current Fiscal Year Endorsements	1,851,534	3,160,500	2,490,250	2,193,835	2,309,682	2,265,119	2,397,465	2,394,655
+ Interest Income	1,221,858	1,369,553	1,549,299	1,745,582	1,949,716	2,163,683	2,389,422	2,632,764
- Administrative Expenses	<u>478,131</u>	<u>504,435</u>	<u>553,525</u>	<u>613,855</u>	<u>670,860</u>	<u>723,957</u>	<u>775,658</u>	<u>828,185</u>
Economic Value at End of Fiscal Year	18,509,777	22,535,394	26,021,417	29,346,980	32,935,518	36,640,363	40,651,593	44,850,827
Unamortized Value of Insurance In-force at Year-end	<u>493,250,206</u>	<u>531,540,991</u>	<u>593,788,294</u>	<u>655,978,247</u>	<u>712,921,397</u>	<u>767,512,444</u>	<u>821,978,590</u>	<u>878,612,579</u>
Capital Ratio	<u>3.75%</u>	<u>4.24%</u>	<u>4.38%</u>	<u>4.47%</u>	<u>4.62%</u>	<u>4.77%</u>	<u>4.95%</u>	<u>5.10%</u>
Volume of New Endorsements	106,801,600	133,557,033	121,673,546	115,593,186	117,612,066	122,544,236	128,452,613	133,328,564
Amortized Value of Insurance In-force at Year-end	<u>459,277,252</u>	<u>499,858,808</u>	<u>558,164,953</u>	<u>615,174,790</u>	<u>667,125,728</u>	<u>716,666,352</u>	<u>765,948,113</u>	<u>817,067,166</u>
Capital Ratio Based on Amortized Value of Insurance In-force at Year-end	<u>4.03%</u>	<u>4.51%</u>	<u>4.66%</u>	<u>4.77%</u>	<u>4.94%</u>	<u>5.11%</u>	<u>5.31%</u>	<u>5.49%</u>

**PRESENT VALUE of FUTURE CASH FLOWS FOR IN-FORCE
BUSINESS AS OF FISCAL YEAR-END 2001
Baseline Economic Scenario
Dollars in Thousands**

**Exhibit II.1
Page 2**

Endorsement				Streamlined	Streamlined	Streamlined	Total
Year	Fixed 30	Fixed 15	ARM	Fixed 30	Fixed 15	ARM	
1975	1,527	0	0	0	0	0	1,527
1976	3,035	0	0	0	0	0	3,035
1977	6,017	0	0	0	0	0	6,017
1978	11,205	0	0	0	0	0	11,205
1979	19,584	0	0	0	0	0	19,584
1980	17,661	0	0	0	0	0	17,661
1981	11,543	0	0	0	0	0	11,543
1982	6,711	0	0	0	0	0	6,711
1983	26,422	0	0	0	0	0	26,422
1984	(6,159)	0	(0)	0	0	0	(6,159)
1985	(9,150)	0	(20)	0	0	0	(9,170)
1986	(24,162)	0	(288)	0	0	0	(24,450)
1987	(53,935)	(3)	(682)	0	0	0	(54,620)
1988	(44,065)	(29)	(2,230)	(2,052)	(142)	0	(48,519)
1989	(40,210)	(38)	(868)	(263)	(1)	0	(41,380)
1990	(65,610)	(102)	(490)	(347)	(2)	0	(66,551)
1991	(65,640)	(238)	(3,124)	(223)	(3)	(4)	(69,231)
1992	(63,987)	137	(12,014)	(2,723)	(38)	(607)	(79,234)
1993	75,311	(403)	16,785	(26,509)	(471)	(2,381)	62,332
1994	138,947	(85)	17,700	(64,740)	(1,775)	(9,998)	80,048
1995	34,854	(447)	2,889	(2,877)	(547)	(1,033)	32,838
1996	79,266	(676)	(15,127)	(1,085)	(1,201)	(1,467)	59,711
1997	38,146	(1,151)	(54,355)	(926)	(1,108)	(2,466)	(21,859)
1998	137,714	(1,416)	(105,023)	2,352	(3,086)	(9,259)	21,282
1999	161,010	(2,206)	(49,117)	35,987	(7,983)	(11,670)	126,021
2000	<u>(397,707)</u>	<u>(3,350)</u>	<u>(109,900)</u>	<u>(9,182)</u>	<u>(2,200)</u>	<u>(12,909)</u>	<u>(535,247)</u>
Total	<u>(1,672)</u>	<u>(10,008)</u>	<u>(315,865)</u>	<u>(72,589)</u>	<u>(18,557)</u>	<u>(51,794)</u>	<u>(470,484)</u>

CALCULATION OF BEGINNING FY 2001 ECONOMIC VALUE
Baseline Economic Scenario
Dollars in Thousands

Exhibit II.1
Page 3

Total Capital Resources	\$ 16,385,000	Source: 2000 FHA Audited Financial Statements
<u>PV of EY 2000+prior future cash flows</u>	<u>(470,484)</u>	
FY 2001 beginnning economic value	<u>\$ 15,914,516</u>	

Estimates of the Economic Value and Capital Ratios of the MMIF as of Fiscal Year End 2001 through 2008
Low House Price Appreciation Scenario

Exhibit II.2

	Fiscal Year - (\$000's)							
	2001	2002	2003	2004	2005	2006	2007	2008
Economic Value at Beginning of Fiscal Year	14,829,781	16,327,030	18,909,605	21,105,668	23,393,134	26,083,928	28,720,592	31,463,017
+ Present Value of Current Fiscal Year Endorsements	798,474	1,872,865	1,499,056	1,612,461	2,032,676	1,990,239	2,105,297	2,101,729
+ Interest Income	1,176,906	1,216,377	1,255,799	1,294,251	1,331,616	1,368,182	1,404,162	1,439,635
- Administrative Expenses	<u>478,131</u>	<u>506,667</u>	<u>558,792</u>	<u>619,246</u>	<u>673,498</u>	<u>721,757</u>	<u>767,034</u>	<u>811,360</u>
Economic Value at End of Fiscal Year	16,327,030	18,909,605	21,105,668	23,393,134	26,083,928	28,720,592	31,463,017	34,193,020
Unamortized Value of Insurance In-force at Year-end	<u>493,250,206</u>	<u>536,230,310</u>	<u>600,493,362</u>	<u>661,972,964</u>	<u>715,479,791</u>	<u>765,340,988</u>	<u>813,330,347</u>	<u>861,736,441</u>
Capital Ratio	<u>3.31%</u>	<u>3.53%</u>	<u>3.51%</u>	<u>3.53%</u>	<u>3.65%</u>	<u>3.75%</u>	<u>3.87%</u>	<u>3.97%</u>
Volume of New Endorsements	106,801,600	130,232,275	113,871,345	103,223,227	103,506,558	107,673,034	112,798,645	117,019,155
Amortized Value of Insurance In-force at Year-end	<u>459,277,252</u>	<u>504,124,747</u>	<u>563,965,582</u>	<u>619,678,604</u>	<u>667,663,768</u>	<u>711,923,498</u>	<u>754,205,827</u>	<u>796,651,149</u>
Capital Ratio Based on Amortized Value of Insurance In-force at Year-end	<u>3.55%</u>	<u>3.75%</u>	<u>3.74%</u>	<u>3.78%</u>	<u>3.91%</u>	<u>4.03%</u>	<u>4.17%</u>	<u>4.29%</u>

Estimates of the Economic Value and Capital Ratios of the MMIF as of Fiscal Year End 2001 through 2008
High Interest Rates Scenario

Exhibit II.3

	Fiscal Year - (\$000's)							
	2001	2002	2003	2004	2005	2006	2007	2008
Economic Value at Beginning of Fiscal Year	16,863,757	19,580,540	21,273,151	22,331,730	23,305,841	26,191,755	29,062,168	32,084,649
+ Present Value of Current Fiscal Year Endorsements	2,018,009	1,013,226	437,740	396,883	2,309,682	2,265,119	2,397,465	2,394,655
+ Interest Income	1,176,906	1,215,529	1,251,975	1,285,566	1,317,910	1,351,039	1,385,530	1,420,671
- Administrative Expenses	<u>478,132</u>	<u>536,144</u>	<u>631,136</u>	<u>708,337</u>	<u>741,678</u>	<u>745,744</u>	<u>760,516</u>	<u>792,178</u>
Economic Value at End of Fiscal Year	19,580,540	21,273,151	22,331,730	23,305,841	26,191,755	29,062,168	32,084,649	35,107,796
Unamortized Value of Insurance In-force at Year-end	<u>493,250,206</u>	<u>596,310,055</u>	<u>687,963,139</u>	<u>756,489,879</u>	<u>761,870,527</u>	<u>771,627,407</u>	<u>797,366,272</u>	<u>839,968,604</u>
Capital Ratio	<u>3.97%</u>	<u>3.57%</u>	<u>3.25%</u>	<u>3.08%</u>	<u>3.44%</u>	<u>3.77%</u>	<u>4.02%</u>	<u>4.18%</u>
Volume of New Endorsements	106,801,600	133,557,033	121,673,546	115,593,186	117,612,066	122,544,236	128,452,613	133,328,564
Amortized Value of Insurance In-force at Year-end	<u>459,277,252</u>	<u>560,467,466</u>	<u>645,903,446</u>	<u>708,031,867</u>	<u>709,633,037</u>	<u>715,803,369</u>	<u>737,867,199</u>	<u>776,324,413</u>
Capital Ratio Based on Amortized Value of Insurance In-force at Year-end	<u>4.26%</u>	<u>3.80%</u>	<u>3.46%</u>	<u>3.29%</u>	<u>3.69%</u>	<u>4.06%</u>	<u>4.35%</u>	<u>4.52%</u>

Estimates of the Economic Value and Capital Ratios of the MMIF as of Fiscal Year End 2001 through 2008
High Unemployment, Low Personal Income Scenario

Exhibit II.4

	Fiscal Year - (\$000's)							
	2001	2002	2003	2004	2005	2006	2007	2008
Economic Value at Beginning of Fiscal Year	15,170,215	17,258,201	20,716,510	23,594,749	26,330,335	29,258,838	32,141,205	35,137,480
+ Present Value of Current Fiscal Year Endorsements	1,389,211	2,745,975	2,176,149	2,061,531	2,284,920	2,265,119	2,397,465	2,394,655
+ Interest Income	1,176,906	1,216,450	1,256,087	1,294,655	1,331,587	1,366,932	1,401,026	1,434,189
- Administrative Expenses	<u>478,131</u>	<u>504,116</u>	<u>553,997</u>	<u>620,600</u>	<u>688,004</u>	<u>749,685</u>	<u>802,216</u>	<u>850,220</u>
Economic Value at End of Fiscal Year	17,258,201	20,716,510	23,594,749	26,330,335	29,258,838	32,141,205	35,137,480	38,116,104
Unamortized Value of Insurance In-force at Year-end	<u>493,250,206</u>	<u>530,883,470</u>	<u>595,467,879</u>	<u>668,674,186</u>	<u>737,046,437</u>	<u>799,293,453</u>	<u>848,859,393</u>	<u>901,590,668</u>
Capital Ratio	<u>3.50%</u>	<u>3.90%</u>	<u>3.96%</u>	<u>3.94%</u>	<u>3.97%</u>	<u>4.02%</u>	<u>4.14%</u>	<u>4.23%</u>
Volume of New Endorsements	106,801,600	133,557,033	121,673,546	115,593,186	117,612,066	122,544,236	128,452,613	133,328,564
Amortized Value of Insurance In-force at Year-end	<u>459,277,252</u>	<u>499,249,406</u>	<u>559,676,166</u>	<u>626,556,457</u>	<u>688,512,949</u>	<u>744,455,728</u>	<u>788,921,855</u>	<u>836,213,078</u>
Capital Ratio Based on Amortized Value of Insurance In-force at Year-end	<u>3.76%</u>	<u>4.15%</u>	<u>4.22%</u>	<u>4.20%</u>	<u>4.25%</u>	<u>4.32%</u>	<u>4.45%</u>	<u>4.56%</u>

Estimates of the Economic Value and Capital Ratios of the MMIF as of Fiscal Year End 2001 through 2008
DRI/OMB Economic Forecast

Exhibit II.5

	Fiscal Year - (\$000's)							
	2001	2002	2003	2004	2005	2006	2007	2008
Economic Value at Beginning of Fiscal Year	14,950,003	17,323,223	21,273,244	24,993,521	28,609,415	32,295,761	35,960,943	39,724,909
+ Present Value of Current Fiscal Year Endorsements	1,674,446	3,216,194	2,952,893	2,831,699	2,891,506	2,864,673	2,961,993	3,084,377
+ Interest Income	1,176,906	1,217,051	1,259,113	1,302,584	1,346,821	1,391,515	1,436,407	1,481,342
- Administrative Expenses	<u>478,131</u>	<u>483,225</u>	<u>491,730</u>	<u>518,388</u>	<u>551,981</u>	<u>591,006</u>	<u>634,434</u>	<u>679,351</u>
Economic Value at End of Fiscal Year	17,323,223	21,273,244	24,993,521	28,609,415	32,295,761	35,960,943	39,724,909	43,611,276
Unamortized Value of Insurance In-force at Year-end	<u>493,250,206</u>	<u>488,214,342</u>	<u>510,354,504</u>	<u>542,379,592</u>	<u>579,557,212</u>	<u>622,915,006</u>	<u>669,637,166</u>	<u>716,661,291</u>
Capital Ratio	<u>3.51%</u>	<u>4.36%</u>	<u>4.90%</u>	<u>5.27%</u>	<u>5.57%</u>	<u>5.77%</u>	<u>5.93%</u>	<u>6.09%</u>
Volume of New Endorsements	106,801,600	133,557,033	121,673,546	115,593,186	117,612,066	122,544,236	128,452,613	133,328,564
Amortized Value of Insurance In-force at Year-end	<u>459,277,252</u>	<u>459,316,516</u>	<u>480,589,132</u>	<u>510,272,631</u>	<u>544,799,884</u>	<u>584,865,548</u>	<u>627,810,093</u>	<u>670,721,248</u>
Capital Ratio Based on Amortized Value of Insurance In-force at Year-end	<u>3.77%</u>	<u>4.63%</u>	<u>5.20%</u>	<u>5.61%</u>	<u>5.93%</u>	<u>6.15%</u>	<u>6.33%</u>	<u>6.50%</u>